

The Kelley Home in La Verne

SUPERVISORIAL DISTRICT 5 RESIDENT

What It Cost

Many homeowners begin with a 20% energy savings target.

The Kelleys' upgrade included:



Cost-effective upgrades projected to achieve at least **20% energy savings** in this home

Energy assessment	\$250
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Attic, crawl space and wall insulation upgrade with air sealing	\$2,787
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Subtotal investment	\$3,037
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Qualified Energy Upgrade California incentives	\$4,000*
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Subtotal #1 costs	-\$963
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Subtotal #1 out-of-pocket costs	\$0**
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But the Kelleys went a step further.



Additional upgrades projected to achieve over **30% energy savings** in this home

Lennox heating and A/C system with duct enhancements	\$11,160
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Pool pump upgrade	\$1,600
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Shower valves upgrade	\$50
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Subtotal additional investment	\$12,810
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Additional Energy Upgrade California incentives	\$2,000*
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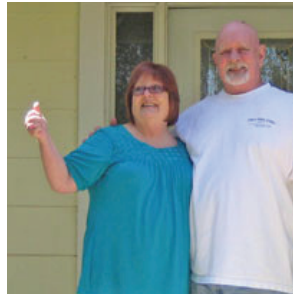
Subtotal #2 out-of-pocket costs	\$10,810
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Subtotal #1 costs	-\$963
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Total out-of-pocket costs	\$9,847
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*Check EnergyUpgradeCA.org/LACounty for current promotion.

**Out-of-pocket costs cannot be less than zero.



La Verne residents Charles and Nancy Kelley live in an 1,800-square-foot home built in 1977. They spend about \$3,300 annually for electricity and gas. Mr. Kelley is retired and enjoys restoring antique cars, and Mrs. Kelley plans to retire soon. They recently remodeled their kitchen and

considered making other home improvements. But as they enter a new phase in their lives, the Kelleys are mindful of saving money and would like to decrease their utility bills. Energy Upgrade California helped make that happen!



**Energy Upgrade California
Home Energy Makeover**

1. Comprehensive Energy Assessment

To provide a complete evaluation of the Kelley home's energy use, **SoCal Remodeling** conducted a comprehensive home energy assessment using diagnostic equipment that included a blower door. Testing showed the home was more drafty than it should have been. **SoCal Remodeling** determined that the home needed insulation and that its ventilation was very poor. In fact, the attic had no ventilation at all—an unsafe condition. They also determined that the central heating and cooling systems were in need of replacement.

2. Insulation with Air Sealing

SoCal Remodeling treated ten ceiling lights with sealed and energy efficiency rated trim rings to make sure all penetrations between the attic floor and living area ceiling were sealed before blowing in cellulose insulation donated by **GreenFiber**. The new insulation improved the energy efficiency level from R-6 to R-38 to comply with modern building energy codes. At the attic entrance, they constructed an insulated attic hatch.

The Kelley Home in La Verne *(continued)*



The Kelleys' home in La Verne



Running the blower door test



Poor insulation with no air sealing

To address the lack of ventilation in the attic, which can cause moisture condensation, **SoCal Remodeling** added a small gable and two low-mounted, self-propelled roof fans that were color-matched to the roof shingles.

SoCal Remodeling also weather-stripped around several doors, paying close attention to the seal in areas that exposed the living area to garage fumes. These combined efforts reduced the air exchange rate in the home.

3. Heating and Cooling System

Lennox Industries provided an 85% efficiency furnace to replace the existing 16-year-old model. They also donated a SEER 14 efficiency central air conditioner to replace the home's 12-year-old system. **Comfort Climate Associated Heating and Air** removed the old furnace from a closet area and relocated the system to a more central location in the attic. This upgrade gave the family the unexpected benefit of a new closet. The home's old 3.5-ton sized system was replaced with a 3-ton system. The smaller size was made possible by the increased insulation and improved duct design.

Leaks, holes and poorly connected ducts were losing over 20% of the air moving through the old heat pump's duct system, creating higher energy costs and decreasing comfort. **SoCal Remodeling** removed the old ducts, and redesigned and installed a new air-balanced ducting system that included increased air supply return, shorter air supply ducts and all new vent registers. The new ductwork was insulated to an R-8 efficiency level, sealed to 95% efficiency, and then buried within the attic's new insulation.

Comfort Climate installed a programmable, touch-screen thermostat donated by **Lennox**, which ensures that the system operates at peak efficiency and can be adjusted to a pre-set schedule. Now the system runs less when the occupants are asleep or away from home.



GreenPoint Rated Elements label improvements

GreenPoint rating and processing	\$1,600
Toilets and shower heads	\$1,100
Plumbing labor	\$1,000
Recycling center	\$150
CO alarms	\$50
Subtotal additional investment	\$3,900
GreenPoint Rated Elements label rebate and LA bonus	\$900
Total additional out-of-pocket	\$3,000



Unsealed ducts allowing unconditioned air to be sucked back into the home



GreenPoint Rated Improvements

Since the Kelleys were already making energy improvements as part of Energy Upgrade California, they didn't have much further to go to get the GreenPoint Rated Elements label. **Energy Efficiency Management, Inc.** helped the Kelleys earn 27 points—above the minimum 25 points needed for the label.

GreenPoint Rating for the Kelley home was provided by **Energy Efficiency Management, Inc.**

Energy Efficiency—16 points

Most of the Kelleys' energy points were achieved through the Energy Upgrade California's Advanced Upgrade Package.

Water Efficiency—5 points

Energy Efficiency Management, Inc. suggested several water conserving measures that would help the Kelleys save more money on their utility bills. Following these suggestions, **SoCal Remodeling** replaced the home's showerheads and bathroom faucets with high-efficiency models and upgraded the 1.6 gallon-per-flush (GPF) toilets with .94 GPF Sydney Smart Dual Flush Wash toilets donated by **Caroma**. These will produce a water savings of 40%—well beyond the 1.28 GPF toilets now mandated in California.

SoCal Remodeling also installed a shower control valve. This valve turns the flow off automatically once the desired temperature is achieved and holds it until water is actually needed.

Indoor Air Quality—2 points

The air and duct sealing work done as part of the energy efficiency upgrades vastly improved the indoor air quality in the Kelleys' home.

The home also received a new UL 2034 carbon monoxide monitor to comply with the new code, effective in California on July 1, 2011.

The Kelleys earned extra indoor air quality points for having a kitchen range hood that vented directly to the outside.

Resource Efficiency—4 points

Energy Efficiency Management Inc. made sure that all cardboard, concrete and metal waste created during the upgrade was recycled. This is a required part of the GreenPoint Rated process and saves waste from ending up in our landfills.

Resource efficiency points were also earned for using recycled content insulation and for the home's existing durable roofing and siding.

The Kelley Home in La Verne *(continued)*

GreenPoint Rated Improvements

The GreenPoint Rated label is the mark of quality for green home upgrades. It verifies that your home upgrade was installed according to proven green standards, and can even improve your property value at time of sale. When you participate in GreenPoint Rated, you earn points for improvements that save energy, water, resources and indoor air quality.

Learn about GreenPoint Rated Improvements at GreenPointRated.com.

About Energy Upgrade California in Los Angeles County

Energy Upgrade California in Los Angeles County is a rebate and incentive program for homeowners to improve their homes' energy efficiency, save water and natural resources, lower utility bills, and create a healthier and more comfortable home through a home energy upgrade. Energy Upgrade California connects homeowners with local Participating Contractors who can complete their home energy upgrade and help them apply for rebates and incentives. Learn more at EnergyUpgradeCA.org/LACounty or call 1-877-785-2237.

MAKEOVER TEAM

CONTEST HOST AND ADMINISTRATOR
Los Angeles County Team

PARTICIPATING UTILITIES
Southern California Edison
Southern California Gas
City of La Verne Water Agency

**OVERALL MAKEOVER WORK SCOPE
COORDINATION PROVIDED BY:**
SoCal Remodeling,
www.socalremodeling.com

**COMPREHENSIVE HOME ENERGY
ANALYSIS PROVIDED BY:**
SoCal Remodeling,
www.socalremodeling.com

GREENPOINT RATING PROVIDED BY:
Energy Efficiency Management, Inc.,
www.energyefficiencypro.com

HEATING AND A/C SYSTEM PROVIDED BY:
Lennox Industries, www.lennox.com
INSTALLED BY:
Comfort Climate Associated Heating and Air

**INSULATION WITH AIR SEALING
PROVIDED BY:**
GreenFiber,
www.greenfiber.com
AND INSTALLED BY:
SoCal Remodeling,
www.socalremodeling.com

POOL PUMP PROVIDED BY:
Pentair Water Pool and Spa,
www.pentairpool.com
INSTALLED BY:
Pools by Ben,
www.poolsbyben.com

TOILET PROVIDED BY:
Caroma, www.caromausa.com
INSTALLED BY:
SoCal Remodeling,
www.socalremodeling.com